HOW CHEMICALS GET TESTED AND APPROVED: THE MANUFACTURER'S PRODUCT SUBMISSION PROCESS 8403

(September 2003)

Fire chemical products must be evaluated before they can be approved for use by CDF. The USFS Director of Aviation and Fire Management, Washington D.C., approves chemicals for operational use by the Forest Service. CDF only uses wildland fire chemicals that have been approved by the US Forest Service.

Departmental employees who may be approached by manufacturers concerning information on product testing and approval should refer representatives to the CDF Wildland Fire Chemicals Program Manager in Sacramento, or they may be referred to:

USDA-Forest Service
Wildland Fire Chemical Systems
Missoula Technology and Development Center
5785 Highway 10 West
Missoula, MT 59808

CORROSIVE EFFECTS OF FIRE CHEMICALS 8403.1

(September 2003)

A. LONG-TERM FIRE RETARDANTS: Most of the long-term fire retardants now in use are chemical salt solutions, usually containing 10 to 15 percent monammonium phosphate, diammonium phosphate, ammonium polyphosphate, or ammonium sulfate. The chemical salt solutions used as fire retardants corrode metal. This corrosion can destroy the equipment used for mixing, storing, and applying fire retardants, resulting in the loss of hundreds of thousands of dollars of equipment nationwide every fire season. In addition to the economic loss, corrosion of equipment, particularly aircraft, can create safety hazards.

To minimize or prevent corrosion, CDF has adopted the following practices:

- Use of corrosion-resistant alloys when modifying aircraft for use as airtankers.
- Minimizing use of magnesium alloys, and applying a protective coating to all magnesium components that cannot be replaced.
- Avoiding the joining of dissimilar metals. If dissimilar metals must be used, they are separated with nonmetallic materials, wherever possible.
- Use of only retardants containing effective corrosion inhibiting additives, and which meet USFS specifications.

- Using retardants only at the recommended mix or use level.
- On aircraft, use of protective grease-type preservatives and inhibiting compounds in unpainted, corrosion-prone areas.
- Regular maintenance of protective coatings, and complete eradication of any corrosion detected.
- Use of protective coatings and providing adequate ventilation for steel retardant handling equipment.
- Inspection aircraft and ground equipment for corrosion at least twice each month, and repair or replacement of corrosion-damaged components.
- Use of plain water to wash residual retardant from aircraft and retardant handling equipment after each day's operations.
- Regular thorough cleaning of aircraft and ground equipment with water and detergent, and thorough rinsing to remove all traces of detergent.

B. CLASS A FIRE SUPPRESSANT FOAMS: Fire suppressant foams can also be corrosive to metals. For that reason the USFS Wildland Fire Chemical Systems program tests foams for corrosion, and approves only those that have minimal corrosive qualities.

C. FIRE SUPPRESANT WATER ADDITIVES: These products are subjected to testing and qualified using the same corrosion standards as for fire suppressant foams.

QUALIFIED PRODUCTS LIST (QPL) 8403.2

(September 2003)

The USFS Wildland Fire Chemical Systems (WFCS) program has prepared a "Qualified Products List" (QPL) that lists all fire chemicals that they have approved for use in wildland fire suppression. It includes a page that lists long-term retardants that are approved by CDF for use at CDF bases. This list is updated monthly, and can be found on the WFCS website at :

http://www.fs.fed.us/rm/fire/download/chemical/qpl_current.pdf

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